

CLAIMS

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What is claimed is:

- 09416308-101299
1. A method for transacting router notification using a database subsystem, said database subsystem operatively coupled for communication with a plurality of router subsystems, comprising:
- 10
- (a) transmitting a notification registration request by a first subsystem to said database system, said registration request indicating configuration data for which said first subsystem would like registration;
- (b) receiving said notification registration request by said database system;
- 15 and
- (c) registering said first subsystem for notification by said database.
2. The method of claim 1 further comprising maintaining router configuration data using a tree structure having a plurality of tuples by said database
- 20 system.
3. The method of claim 2 wherein said registering said first subsystem for notification further comprises:
- 25 (a) finding a requested tuple for which notification is requested; and

(b) setting the notification flag for said requested tuple.

4. The method of claim 3 wherein said registering said first subsystem for notification further comprises:

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- (a) determining whether said notification registration request included a request for notification of a name space; and
- (b) setting a notification flag for children nodes of said requested tuple if said determining step determines that said notification registration request
- 10 included said notification of a name space.

5. The method of claim 1, further comprising:

- 15 (a) transmitting a notification unregistration request by said first subsystems to said database system, said unregistration request indicating the configuration data for which said first subsystem would like unregistration;
- (b) receiving said notification unregistration request by said database system; and
- 20 (c) unregistering said first subsystem for notification by said database.

6. The method of claim 1 further comprising:

- 25 (a) transmitting a router configuration transaction request by a second subsystem to said database system;

(b) receiving said router configuration transaction request by said database system;

(c) carrying out said requested transaction by said database system, said transaction affecting router configuration data maintained by said database system;

(d) determining which of said subsystems are registered for notification for said router configuration data; and

(e) notifying said subsystems which are determined to be registered for notification for said router configuration data.

7. The method of claim 6 wherein said router configuration transaction request is a create request.

8. The method of claim 6 wherein said router configuration transaction request is a delete request.

9. The method of claim 6 wherein said router configuration transaction request is a modify request.

10. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for transacting router notification using a database subsystem, said database subsystem operatively coupled for communication with a plurality of router subsystems, said method comprising:

- (a) transmitting a notification registration request by a first subsystem to said database system, said registration request indicating configuration data for which said first subsystem would like registration;
- (b) receiving said notification registration request by said database system;
- 5 and
- (c) registering said first subsystem for notification by said database.

11. The program storage device of claim 10, said method further comprising maintaining router configuration data using a tree structure having a plurality of tuples by said database system.

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12. The program storage device of claim 11, wherein said registering said first subsystem for notification further comprises:

- 15 (a) finding a requested tuple for which notification is requested; and
- (b) setting the notification flag for said requested tuple.

13. The program storage device of claim 12, wherein said registering said first subsystem for notification further comprises:

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- (a) determining whether said notification registration request included a request for notification of a name space; and
- (b) setting a notification flag for children nodes of said requested tuple if said determining step determines that said notification registration request
- 25 included said notification of a name space.

14. The program storage device of claim 10, said method further comprising:

- 5 (a) transmitting a notification unregistration request by said first subsystems to said database system, said unregistration request indicating the configuration data for which said first subsystem would like unregistration;
- (b) receiving said notification unregistration request by said database system; and
- 10 (c) unregistering said first subsystem for notification by said database.

15 15. The program storage device of claim 10, said method further comprising:

- (a) transmitting a router configuration transaction request by a second subsystem to said database system;
- 20 (b) receiving said router configuration transaction request by said database system;
- (d) carrying out said requested transaction by said database system, said transaction affecting router configuration data maintained by said database system;
- (e) determining which of said subsystems are registered for notification for said router configuration data; and
- (f) notifying said subsystems which are determined to be registered for notification for said router configuration data.
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16. A router operating system comprising:

- (a) a database subsystem;
- (b) a plurality of client subsystems, each operatively coupled to said database subsystem; and
- (c) a database operatively coupled to said database system to store router configuration information, said database system further comprising a notification unit, said notification unit configured to provide notification of changes to router configuration information.

17. The router operating system of claim 16 wherein said database is structured and configured as a tree database.

18. In a router device having a processor and memory, a router operating system executing within said memory comprising by said processor, said router operating system comprising:

- (a) a database subsystem;
- (b) a plurality of client subsystems, each operatively coupled to said database subsystem; and
- (c) a database operatively coupled to said database system to store router configuration information, said database system further comprising a notification unit, said notification unit configured to provide notification of changes to router configuration information.

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